

# Report Summary

*for*  
Bicycling and Walking in North Carolina:  
Results of a Year 2000 Survey

*Produced for the*

North Carolina Department of Transportation  
Division of Bicycle and Pedestrian Transportation

*by*

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## Bicycling and Walking in North Carolina: Results of a Year 2000 Survey Report Summary

The North Carolina Department of Transportation's Division of Bicycle and Pedestrian Transportation (DBPT) is charged with improving the safety, access, and mobility of bicyclists and pedestrians throughout the state. In order to learn more about these user groups, their needs, and their bicycling and walking activities, the DBPT worked with the UNC Highway Safety Research Center to undertake a survey that would address these issues.

The North Carolina Bicycling and Walking 2000 Survey was carried out to learn more about current levels of bicycling and walking in North Carolina and ways to encourage more North Carolinians to bike or walk. The goal was to provide an updated "snapshot" of the status of bicycling and walking in North Carolina. How many North Carolinians bike or walk regularly? Where do they bike and walk? Do people feel that their neighborhoods and communities are good places for bicycling and walking? What changes would make bicycling and walking easier and safer for North Carolinians? Answers to these and other questions can help guide the DBPT in its mission of creating safer and more inviting environments for bicycling and walking in North Carolina.

To answer our questions, a telephone questionnaire was developed by researchers at the University of North Carolina Highway Safety Research Center, in collaboration with DBPT staff. The survey was designed to gather information on the following topics:

- Household characteristics — number of persons residing in household, number of bicycles owned by members of household, etc.
- Bicycling frequency, reasons for riding (commuting, exercise, errands, etc.), reasons for not riding more often, and preferred locations for riding
- Ownership and use of bicycle helmets by self and by any children in household
- Recent involvement in bicycle crashes
- Walking frequency, reasons for walking, preferred locations for walking
- Children's school travel
- Improving neighborhood and community conditions for bicycling and walking
- Opinions on issues related to bicycling and walking
- Participant demographics

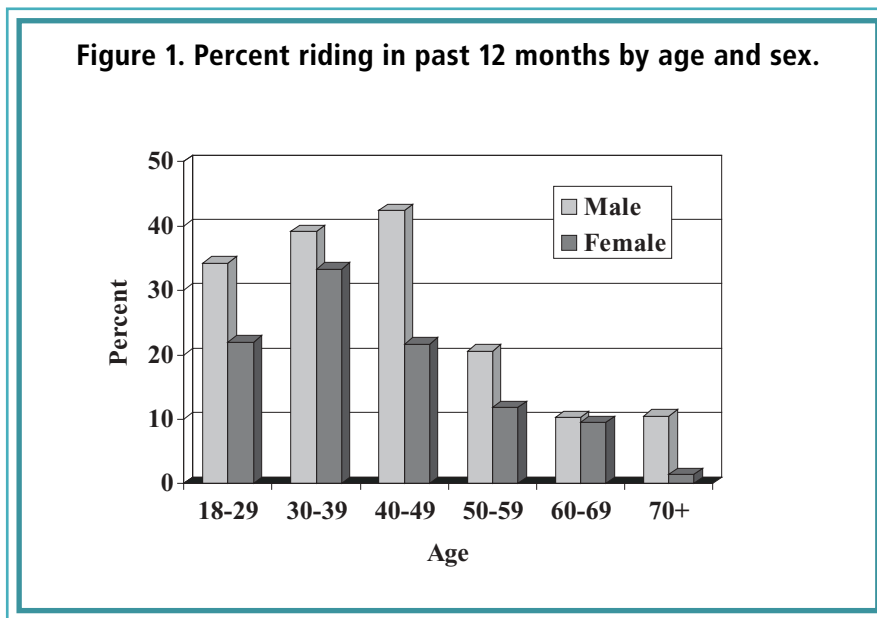
A total of 1,000 North Carolina adults ages 18-97 participated in the survey. Following are highlights from their responses to our questions. More detailed information about the survey sample and data collection procedures is included at the end of this summary.

# Bicycling in North Carolina

## Bicycle Ownership and Use

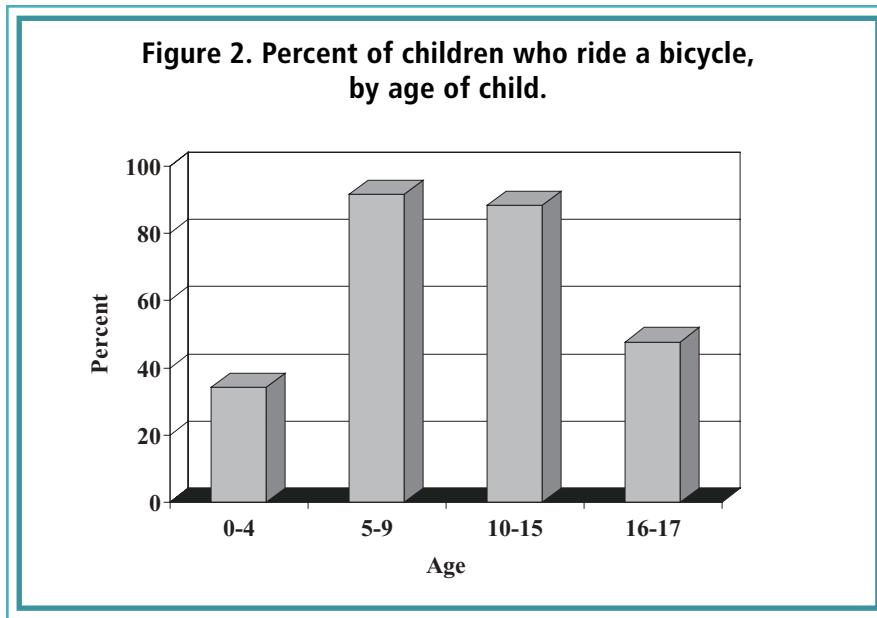
Overall, 46.0% of respondents reported one or more bicycles in the household. Bicycle ownership was strongly associated with size of household: whereas only 17.3% of single person households owned one or more bicycles, 33.1% of two-person, 60.4% of three-person, and 79.5% of four or more person households owned bicycles. The number of bicycles owned also increased with size of household.

Just over a third (34.0%) of the adults ages 18 and older interviewed said that they themselves owned a bicycle, and 23.3% reported riding within the past 12 months. These results were associated with both age and sex (Figure 1). Overall, 28.5% of males and 18.6% of females reported riding during the past 12 months. The group with the highest percentage of bicyclists was males ages 40-49, followed closely by males ages 30-39. Among females, ridership was highest among 30-39 year-olds.



Bicycling was most popular among adults under age 50 and among males.

Adults with children under the age of 18 living in the household were also asked about their children's bicycle riding. Overall, 72% of children under the age of 18 were reported to ride bicycles. Ridership was highest among 5-15 year-olds, with 90% of the children in this age range reported to ride bikes (Figure 2).

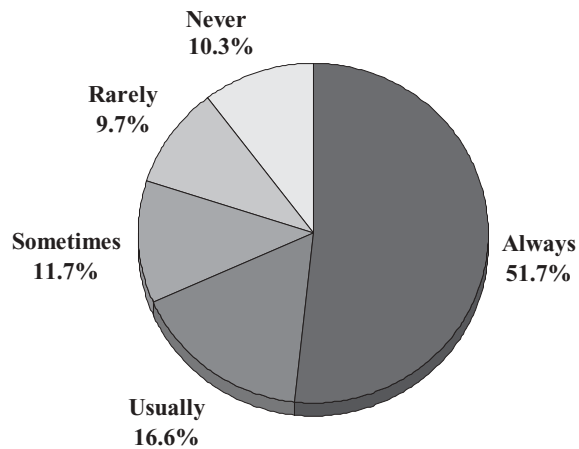


Bicycle riding is especially common for children ages 5-15.

### Bicycle Helmet Use

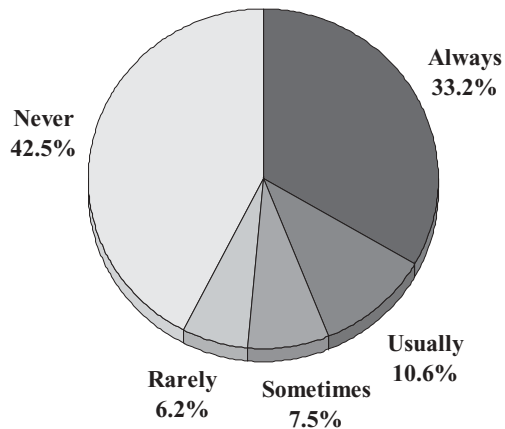
Nearly two-thirds (64.2%) of the adults ages 18 and above who had ridden during the past year reported owning a bicycle helmet or having access to one that they could use. Just over half of helmet owners, however, said that they always wore their helmet when they rode, while one in five reported rarely or never wearing their helmet (Figure 3a). Adding in the one-third of riders who do not have a helmet reduces the percentage of self-reported “always” wearers to 33.2%, while increasing the percentage of “never” wearers to 42.5% (Figure 3b). Helmet ownership and use were not significantly associated with age, gender or race, although whites were somewhat more likely than nonwhites to report owning (65.8% versus 51.7%) and always wearing (54.3% versus 33.3%) a bike helmet.

**Figure 3a. How often wear a bicycle helmet (for adult riders who report having a helmet).**



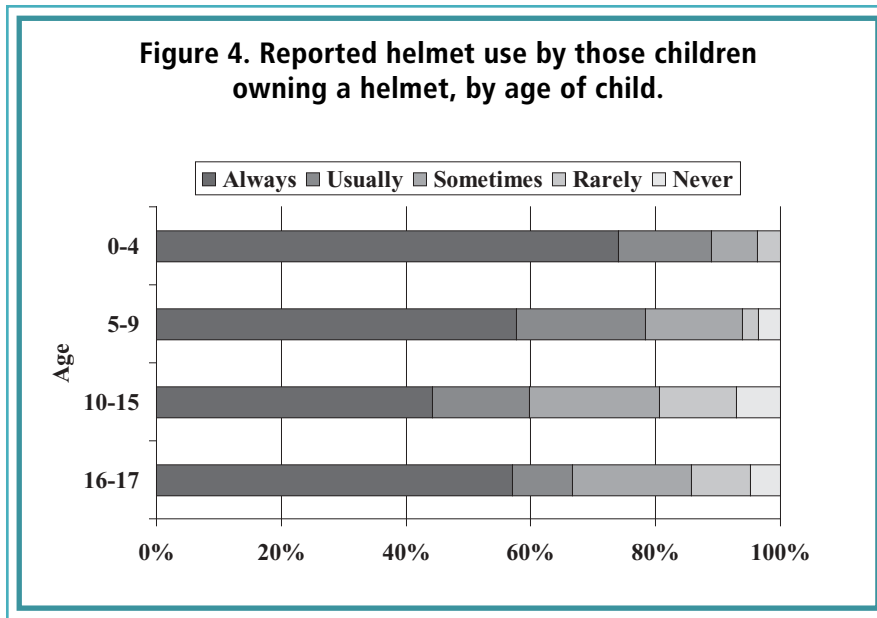
Just over half of adults who have a helmet report always wearing it when they ride.

**Figure 3b. How often wear a bicycle helmet (for all adult riders).**



Overall, a third of all adult riders report always wearing a helmet.

Parents of children under the age of 18 who rode bicycles reported that 82.9% of their children owned or had access to a bicycle helmet. Children ages 5-9 were the most likely to own a helmet, followed by those ages 10-15. Again, however, just over half of those children were reported to always wear their helmet when they rode. Riders ages 10-15 were the least likely to be reported as always wearing a helmet (Figure 4).



Reported helmet use was lowest among 10-15 year-old riders.

These data were collected prior to passage of a statewide law in 2001 (effective date October 1, 2001) requiring children under the age of 16 in North Carolina to wear an approved helmet when bicycling. It should also be emphasized that these are self-reported use levels, which tend to be higher than observed helmet use rates.

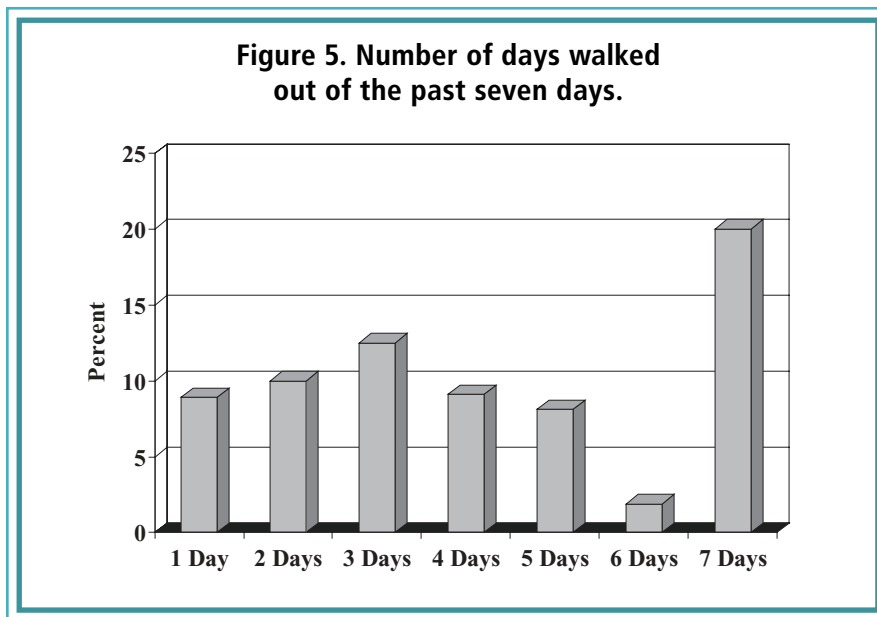
# Walking in North Carolina

## Restrictions on Walking

Prior to asking the survey questions about walking, all participants were asked whether they had any physical limitations that restricted the amount of walking they were able to do. If they indicated that they did, a follow-up question was asked to clarify whether the physical limitation “somewhat restricted” or “severely restricted” their ability to walk. Those who indicated that their walking was severely restricted were not questioned further about their walking activity. Overall, 13.9% of the survey participants indicated that they had physical limitations that severely restricted their ability to walk.

## How Often Walk and for How Long

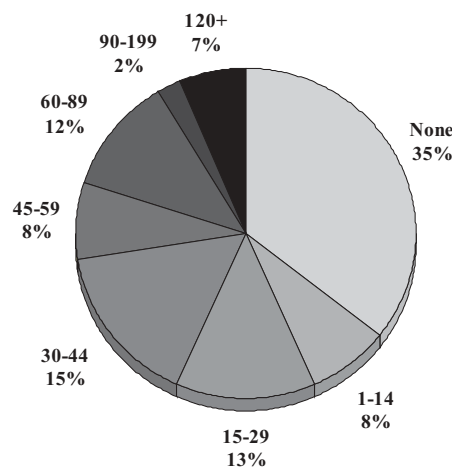
In responding to the survey questions about walking, participants were instructed to “consider any walking you do outside, whether on streets, sidewalks, or on paths.” Using this definition of walking, just over 70 percent of the respondents (those whose physical activity was not severely restricted) said that they had walked distances of two blocks or more on at least one day out of the past seven; one in five (20.0%) had walked two or more blocks on all seven days (Figure 5). Adults age 50 and older were especially likely to report walking on all seven of the past seven days.



One in five persons had walked all seven of the past seven days.

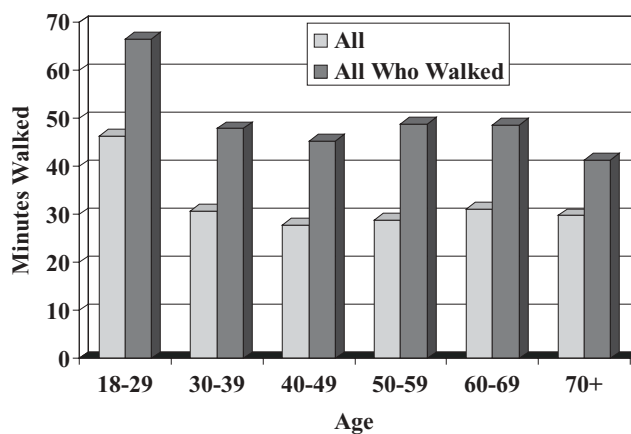
The 811 respondents were also asked how much time, altogether, they had spent walking on just the previous day. Over half (56.5%) reported walking for 15 or more minutes (Figure 6). Altogether, the respondents reported spending an average of 32.6 minutes walking on the previous day. This number includes those respondents who had not walked at all. If these non-walkers are excluded, the mean time spent walking among those who had walked at all was 50.2 minutes. There were no differences in times for males versus females, but times were highest for the 18-29 year-old age group (Figure 7).

**Figure 6. Minutes walked on the previous day.**



Two-thirds of adults had walked on the previous day; 44% had walked for 30 minutes or more.

**Figure 7. Minutes walked on the previous day by age.**



Although 18-29 year-olds reported walking the most, time spent walking was fairly consistent across all age groups.



## Opinions on Issues Related to Bicycling and Walking

Additional questions on the survey were designed to gather respondents' opinions on issues related to bicycling and walking. Participants were asked whether they agreed or disagreed with three statements.

**Statement 1: My community should spend more money to make it easier and safer for people to bicycle or walk.** Overall, three out of four North Carolina adults strongly or somewhat agreed that their communities should spend more money to improve conditions for bicycling and walking. Younger respondents were the most likely to strongly support higher levels of community spending to improve conditions for bicycling and walking. Older respondents (those age 60 and above) were the least likely to strongly support increased community spending, and were also more likely to respond that they did not know or had no opinion on this issue. Males and females were about equally likely to strongly support increased spending. And while males were more likely than females to strongly oppose such spending, the percentage strongly opposing was relatively small for both groups (16.1% for males, 7.0% for females).

**Statement 2: More state transportation dollars should go to support bicycling and walking.** Opinions regarding increased spending of state transportation dollars for bicycling and walking were similar, with greatest levels of support among younger respondents and females. Overall, one-third (33.7%) of North Carolina adults strongly agreed that more state transportation dollars should be allocated to support bicycling and walking, compared to less than 10% who strongly disagreed with this viewpoint. The combined total for "strongly agree" and "somewhat agree" is 71.6% (weighted results), indicated widespread support for state as well as community spending to support bicycling and walking.

**Statement 3: There should be a statewide law requiring children to wear helmets when they ride bicycles.** By far the highest level of support was for passage of a statewide law requiring children to wear helmets when riding bicycles. This was especially true for adults under age 60 and for females. Overall, an estimated two-thirds (66.7%) of North Carolina adults strongly agreed that children should be required to wear helmets, and an additional 17.6% somewhat agreed. Only 7.7% strongly disagreed that there should be a mandatory helmet law for children. *(Note that the survey date preceded passage of a statewide helmet law for children under the age of 16. This legislation was passed in the summer of 2001, and went into effect October 1, 2001. For additional information about the North Carolina Child Bicycle Safety Act, go to [www.ncdot.org/transit/bicycle/laws/helmetlaw.html](http://www.ncdot.org/transit/bicycle/laws/helmetlaw.html).)*

## About the Survey

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The sampling frame for the survey consisted of a random digit dial (RDD) listing of telephone numbers for North Carolina, purchased from a national marketing firm. HSRC requested that the listed telephone numbers be matched to available addresses and names. Having names and addresses allowed us to send prior notification of the survey to these households. However, to avoid biasing the RDD sample, both households with and without names and addresses were contacted to participate in the survey. Once a household was contacted, an interview was attempted with either the person identified on the file, if available, or with the adult in the household who most recently had a birthday.

Data were collected over a 3-month period beginning the third week of August, 2000 and extending through the third week of November. The telephone interviews were conducted by trained employees of the UNC Highway Safety Research Center. Although some calls were made during normal work hours, the vast majority were made on weekday evenings and on weekends. The overall survey cooperation rate, defined as the number of completions divided by the number of completions plus refusals ( $1000 / (1000 + 206)$ ), was 82.9%.





